

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies,
Procedures and Rules for the California Solar Initiative,
the Self-Generation Incentive Program and Other
Distributed Generation Issues

Rulemaking 06-03-004
Filed March 21, 2006

**REPLY COMMENTS BY SUN LIGHT & POWER COMPANY
REGARDING THE CPUC ENERGY DIVISION STAFF PROPOSAL FOR CALIFORNIA
SOLAR INITIATIVE DESIGN AND ADMINISTRATION 2007-2016**

Prepared by: Gary Gerber, President

Sun Light & Power Company respectfully submits these comments in reply to comments by other responders to the CPUC Energy Division Staff Proposal for California Solar Initiative Design and Administration 2007-20016 (“the Staff Proposal”) dated April 24, 2006.

Sun Light & Power Company has been participating in the “Joint Parties” filing by CalSEIA, PV Now and Vote Solar. This document is intended to be supportive and additive to the Joint Parties reply comments.

Sun Light & Power Company is one of only three respondents to the Staff Proposal who is 100% in the business of selling and installing PV systems, and as such can provide valuable perspective for the CPUC regarding the impact of the proposed CSI policies on the willingness of customers to buy systems, and the ability of the installers to sell them. We are also one of the few respondents to quantitatively assess the actual financial consequences to the potential buyers of PV systems under the various CSI proposals.

While we are in strong agreement with many of the respondents, there are several issues on which we disagree with a few respondents. We found, however, that ALL of the issues that we strongly disagree with can be found in the SCE comments, so we will refer in this document only to the SCE arguments.

Our reply will focus on the following elements of the proposal:

1. PBI threshold levels
2. Hybrid approach
3. Setting incentive levels
4. Setting system limits at 100% of historical usage

PBI: Keep the Threshold at 100KW or greater:

SCE argues that the threshold between EPBB and PBI should be lowered to 30KW rather than 100KW. One of the rationales for this is that systems of between 30 and 100KW are likely to be commercially financed, rather than through a home equity line of credit¹. The implication appears to be that all commercial customers will be interested in PBI because they have easy access to money, whereas residential customers do not.

Our company is actively selling systems to both commercial and residential customers every day, and as such we are well aware that many of our smaller commercial customers have very limited access to money. Many restaurants, groceries, auto repair shops, etc. will need PV systems in the 30-100KW range, and they typically do NOT find it easy to come up with the capital needed to install a system. Under a PBI program the customer must pay 100% of the system cost up front. Under EPBB, with the module manufacturer carrying the rebate cost, the customer pays only 60% to 70% of the system cost up front. This 30% increase is often very significant to our customers, and can spell the difference between the ability to install a system or not. In addition, because of the higher up-front investment, the customer's return on investment (ROI) is lowered by a proportional amount. For example, if a solar system costing \$400,000 produces a \$30,000 annual after-tax return, the annual ROI is 7.5%, which is not acceptable to most businesses, who are looking for a minimum of at least a 10% ROI. However, if the up-front cost is reduced by the incentive amount to \$275,000, the ROI becomes 11%, which is acceptable to many businesses. These two factors make the EPBB far more attractive and affordable to the average small business. If the PBI is lowered to 30KW, thousands of potential solar customers will be lost.

¹ COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) ON STAFF PROPOSAL FOR CALIFORNIA SOLAR INITIATIVE DESIGN AND ADMINISTRATION 2007-2016, p. 4

SCE also makes the case that the PBI threshold should be lowered because in their service territory historically only 1% of the solar projects are above 100MW². What should be pointed out is that the SCE projects larger than 100KW account for 33% of the total installed KW. Considering that the SGIP has been in existence for a much shorter time than the ERBP, and it has been consistently hampered by underfunding, a 33% share is actually higher than might be expected. Assuming that the PBI is designed as an attractive program for large commercial customers, with good funding for 10 years, this percentage should rise.

PBI: Utilize the Hybrid Model (or opt-in):

SCE argues also that the hybrid model is unnecessary, stating that the Staff's reasoning for the hybrid approach is "that there will be a "learning curve" in the marketplace, and a direct movement to PBI will be a hardship for those who install poorly functioning systems."³ We contend that in proposing the hybrid the Staff is not trying not to protect the installers of poorly functioning systems, but rather allowing the industry and the CPUC the time to adjust to the PBI, and assess and gauge the success of the PBI program.

The fact is that there is not a single example of a successful PBI program anywhere in the United States. It could be convincingly argued that the CEC version of the PBI was a resounding failure, and had the CEC moved abruptly and 100% to their PBI plan the PV industry in California would likely have been thrown into total disarray. While we agree that PBI is a worthy experiment, it is still an experiment, and there is far too much at stake for us to gamble that we have got it right on the first try. While we would actually prefer an "opt-in" approach, at least the hybrid approach allows the industry time to adjust to the PBI and put in place the financing alternatives that customers will demand. It also will give Staff the time to monitor and adjust the PBI incentives if needed to make the program more attractive. If the PBI is not eagerly accepted by customers, do we expect to "force" them to buy it because they have no alternative? That is not how the market works – people will buy what is attractive to them, and they will not buy what is not attractive. If the program is to grow, as it must, it must respond to the market.

² IBID, p. 4-5

³ IBID, p. 6

Incentives Must Respond to the Market:

SCE claims that higher rebates cause higher system costs, so “The Commission should reduce incentives even if installation costs remain constant”⁴. They go on to argue against the Staff’s proposal to have an “option to retain an incentive at the same level for a second year if market factors have not produced a lower cost per kWh.” The SCE argument completely misses the key issue: market forces will ultimately determine the cost of PV systems. The California incentive program does not drive market prices – this is now a world market.

As we documented in our filing⁵, data from the industry shows that PV system costs are driven heavily by module and equipment prices and labor costs, and PV industry profit margins are right in middle of the range of the construction industry as a whole. The solar industry is not “gouging” the customer; a competitive market simply won’t allow it. In citing the LBL study⁶ SCE states that “LBNL further found that the higher the incentive level available to consumers, the higher the installed cost of solar.” We could not find this exact statement in the cited report, and in fact our review of the LBNL data would conflict with this statement in many cases. Regardless, the report constantly stresses the difference between a correlation and a causal effect, and consistently refuses to assign a cause to the effect. In the concluding remarks, the report states: “Although our analysis cannot, without comparison to a control group, definitively conclude that the CEC and CPUC programs caused these cost reductions, it is clear that – despite the lack of continuity and stability experienced by both programs – pre-rebate installed costs have come down.”

During the time frame of the LBNL report (1998 – 2005) the solar industry in California went through massive changes. Module prices declined significantly, as did “balance of system” equipment, at the same time as rebates were dropping. Which of these can be said to have been “The Cause” of the drop in system costs? More importantly, and not reflected in any of the studies we have seen, significant technical improvements involved in solar installation costs have occurred over the past 5 years. Two examples are: 1) the advent of “plug and play” wiring of modules, which saves a tremendous amount of installation time; and 2) the mass production of

⁴ IBID, p.12

⁵ COMMENTS BY SUN LIGHT & POWER COMPANY REGARDING THE CPUC ENERGY DIVISION STAFF PROPOSAL FOR CALIFORNIA SOLAR INITIATIVE DESIGN AND ADMINISTRATION 2007-2016, p.7

⁶ “Letting the Sun Shine on Solar Costs: An Empirical Investigation of Photovoltaic Cost Trends in California” by Lawrence Berkeley

fast, easy mounting systems for PV modules. Our company can install a system today in about half the time we were spending in 2000, and the savings are reflected in our costs. There is very limited room to drop prices further without equipment costs dropping.

The point is that many market factors influence the cost of PV systems, and in a competitive market no installer can arbitrarily increase costs, because there will always be a competitor standing ready to take away that business. Right now high module prices are driving system costs up. It would be a big mistake to assume that reducing incentives now is going to significantly decrease system costs, especially if the goal is also to increase the number of installations, because it will have exactly the opposite effect.

Allow Systems to be Sized Properly

SCE supports retaining the 100% of demand limit for small PV installations receiving incentives through the EPBB mechanism⁷. We contend that the demand model is totally inappropriate for PV. The demand model is based on energy resources which are available at will. Small hydro, gas cogen, fuel cells, etc. may be activated at any time and may operate 24 hours/day, seven day per week. PV is only available for a limited number of hours per day, so it cannot be responsive to demand loads. The only sensible way to assess the proper size of a grid-connected PV system is to size it to provide up to 100% of the annual usage. A PV system sized only for the peak demand is virtually guaranteed never be large enough to offset the customer's total usage, and in most cases will only be about half as large as necessary.

If the goal of the CSI is to facilitate the installation of as many MW as possible for the best possible price in the time period allotted, how does it serve the interests of the CSI to hobble the size of the systems and disappoint the buyers, while forcing the industry to install twice as many smaller systems (at a higher cost/watt) to get the same MW result?

National Labs (LBNL) (<http://eetd.lbl.gov/ea/ems/reports/59282.pdf>).

⁷ COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) ON STAFF PROPOSAL FOR CALIFORNIA SOLAR INITIATIVE DESIGN AND ADMINISTRATION 2007-2016, p. 9